

START

Department of Energy

Richland Field Office

P.O. Box 550

Richland, Washington 99352

93-RPS-163

APR 09 1993

Mr. Paul T. Day
Hanford Project Manager
U.S. Environmental Protection Agency
Region 10
712 Swift Boulevard, Suite 5
Richland, Washington 99352

RECEIVED
F.A. RUCK III

APR 1 1993

Mr. Roger F. Stanley
Tri-Party Agreement Implementation
Nuclear and Mixed Waste Management Program
State of Washington
Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7600

ACTION _____
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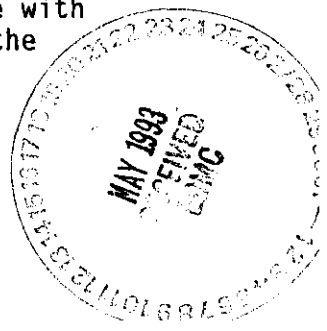
Dear Messrs. Day and Stanley:

SUBMITTAL OF 2101-M POND CLOSURE PLAN, REVISION 1 - FINAL NOTICE OF DEFICIENCY RESPONSE TABLE (D-2-1)

The final Notice of Deficiency (NOD) Response Table for the 2101-M Pond Closure Plan, Revision 1, is submitted by the U.S. Department of Energy, Richland Field Office (RL) and the Westinghouse Hanford Company (WHC) for approval by the State of Washington Department of Ecology (Ecology). Submittal of this response table fulfills the April 12, 1993, commitment date.

The NOD Response Table is in reply to Ecology's additional comments (dated February 4, 1993) on the RL and WHC's previously submitted 2101-M Pond Closure Plan, Revision 1, NOD Response Table. Please note that the NOD comments have been renumbered from Ecology's transmittal. They are numbered consecutively to continue from the last comment number (No. 114) of the Revision 0, NOD Response Table. This was done in accordance with a mutual decision made by the Unit Managers at the October 2, 1992, Unit Managers' Meeting (UMM).

The comments remaining included Nos. 116, 127, 132, 142, and 36 (renumbered 147); all other comments were considered closed by Ecology. The remaining comments were discussed individually at the February 10, 1993, UMM. Responses that were acceptable to Ecology were formulated for Nos. 116, 127, 132, and 36 (renumbered 147), and those comments were closed. In a letter from Ms. E. A. Wiley, Ecology, to Mr. R. G. McLeod, RL, Clean Closure of 2101-M Pond, (M-20-04), dated March 3, 1993, Ecology accepted the RL and WHC response to No. 142, and reaffirmed acceptance of the response to No. 36 (renumbered 147). The letter also proposed clean closure for the 2101-M Pond. Therefore, RL and WHC, with Ecology concurrence from the March 10, 1993, UMM, consider the site clean closed requiring no further action in accordance with the closure plan. The closure plan will be revised in accordance with the commitments made by RL and WHC in the final NOD Response Table.



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Copies of the NOD Response Table will be distributed to representatives of your respective organizations as follows:

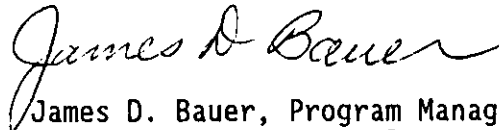
D. L. Duncan, U.S. Environmental Protection Agency (2 copies)

E. A. Wiley, Ecology (4 copies)

D. C. Nylander, Ecology (1 copy)

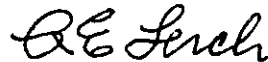
Should you have any questions, please contact Mr. R. G. McLeod, RL, on (509) 372-0096 or Mr. F. A. Ruck III, WHC, on (509) 376-9876.

Sincerely,



James D. Bauer, Program Manager
Office of Environmental Assurance,
Permits, and Policy
DOE Richland Field Office

EAP:RNK



R. E. Lerch, Deputy Director
Restoration and Remediation
Westinghouse Hanford Company

Enclosure:
2101-M Pond Revision 1
Final NOD Response Table

cc w/encl:
Administrative Records (D-2-1)
D. L. Duncan, EPA
M. T. Janaskie, EM-442
D. C. Nylander, Ecology
E. A. Wiley, Ecology

cc w/o encl:
G. W. Jackson, WHC
R. E. Lerch, WHC
F. A. Ruck III, WHC

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ENCLOSURE
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Comment/Response

Concurrence

115. A-2/13. EPA and Ecology have established action levels for concentration limits. These concentration limits can be found in the Federal Register, Part VIII Environmental Protection Agency/40 CFR Part 136.

CLOSED
2/10/93

Ecology Requirement: Please refer to this guidance when establishing action levels since these are EPA action limits which are used for specific parameters.

RL/WHC RESPONSE: 40 CFR 136 is titled *Guidelines Establishing Test Procedures for the Analysis of Pollutants* and provides guidance for test procedures to support NPDES (federal or state) for permits under Section 402 of the *Clean Water Act of 1977*. This does not provide action levels for concentration limits and is not applicable to soil.

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116.	<p>A-2/17. It cannot be determined at this time, if past practices at the BWIP laboratories have or have not contributed to contamination of the water beneath 2101-M Pond. Once missing analytical data is received, Ecology can come to a conclusion regarding this site.</p> <p><u>Ecology Requirement:</u> Provide necessary raw data for validation by Ecology.</p> <p>RL/WHC RESPONSE: The RCRA groundwater monitoring program at the Hanford Site has been in existence since 1987, and has been negotiated and under the control of an Ecology Unit Manager. The four groundwater monitoring wells around the 2101-M Pond were installed in 1988. As stated in the closure plan (page B-53, line 39) groundwater data and quality control information is provided to Ecology in the <i>Quarterly Report of RCRA Groundwater Monitoring Data</i>. It is maintained that raw data as defined by Ecology is not needed for validation and is excessive. The issue of the level of validation required is currently being worked through the <i>Hanford Federal Facility Agreement and Consent Order</i> issue resolution process. Any additional response will be dependant on final disposition of this issue.</p> <p><u>Ecology Requirement 2:</u> Provide necessary data as required for the quarterly groundwater monitoring program.</p> <p>RL/WHC RESPONSE 2: As agreed to at the February 10, 1993 Unit Managers' Meeting, this requirement is met by the <i>Quarterly Report of RCRA Groundwater Monitoring Data</i> that is currently being submitted to Ecology.</p>	CLOSED 2/10/93
117.	<p>A-2/50. The interpretation of the "remove and decontaminate" language is not in accordance with WAC 173-303-610.</p> <p><u>Ecology Requirement:</u> Provide the interpretation for "remove and decontaminate" as stated in WAC 173-303-610.</p> <p>RL/WHC RESPONSE: It is felt that this language is consistent with WAC 173-303-610 (2)(a)(ii). Nevertheless, Ecology has agreed to consider/review a proposal to close to health-based standards.</p>	CLOSED 2/10/93

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118.	<p><u>B-1/45.</u> As stated in Webster's Dictionary, "invoke" means, "To call on for aid, support or inspiration; to call for earnestly; to call forth with incantations."</p> <p><u>Ecology Requirement:</u> Please replace "invoke" with a more appropriate word.</p> <p>RL/WHC RESPONSE: According to <i>Webster's New World dictionary</i>, invoke also means "to put into use (a law, penalty, etc.) as pertinent." A suitable synonym was not found; therefore, no change will be made.</p>	CLOSED 2/10/93
119.	<p><u>B-2/18.</u> See comment number 118.</p> <p>RL/WHC RESPONSE: According to <i>Webster's New World dictionary</i>, invoke also means "to put into use (a law, penalty, etc.) as pertinent." A suitable synonym was not found; therefore, no change will be made.</p>	CLOSED 2/10/93
120.	<p><u>B-4/27.</u> If operations have been terminated, why haven't lab drains been removed from the building to the pond?</p> <p><u>Ecology Requirement:</u> Please explain why these drains have not been removed, and if not, what purpose do they serve?</p> <p>RL/WHC RESPONSE: A discussion concerning the removal of the drains plumbed to the 2101-M Pond and interim actions can be found in Section I on page I-22, lines 5 through 10, and Section B on page B-2, starting on line 20.</p>	CLOSED 2/10/93
121.	<p><u>B-14/52.</u> Please cite the most current SW-846 document, the document mentioned is out of date.</p> <p><u>Ecology Requirement:</u> Change all citations regarding SW-846 to, "SW-846 1986 (as amended)", and follow the requirements as set forth in the revisions to that document.</p> <p>RL/WHC RESPONSE: Citations of SW-846 will be updated unless it deals with a particular version that was actually used for a specific action.</p>	CLOSED 2/10/93

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122.	<p><u>B-15/25.</u> If butanoic acid was not part of the BWIP laboratory and it is not a common laboratory contaminant, there must have been a discharge into the pond at one time.</p> <p><u>Ecology Requirement:</u> Please provide an explanation for this contamination.</p> <p>RL/WHC RESPONSE: A statement will be added to the text indicating that butanoic acid occurs naturally in soil as a vegetation degradation product. See also, Appendix E-1, bottom of page 13. Resampling was conducted in June 1991, which included butanoic acid as an analyte of interest (see Table E1-3, Appendix E-1). The closure plan states that further sampling to better characterize the 2101-M Pond will be completed (page A-2, lines 4-6 and page B-1, lines 24-26). Appendix E contains the phase II sampling analysis plan (SAP) and the quality assurance project plan (QAPP). Both the SAP and QAPP were submitted and approved by Ecology prior to the 1991 sampling. Submittal of revision 1 of the closure plan also occurred prior to the 1991 sampling.</p>	CLOSED 2/10/93
123.	<p><u>B-19/11.</u> Appendix IX has been taken from the 1988 CFR. Please use the most current edition (1991) at the time of writing the plan.</p> <p>RL/WHC RESPONSE: This section of the closure plan is specific to the 1988 sampling event. The 1988 CFR was the current version when the 1988 sampling was conducted and reflects the actual list used for analyses. Use of the latest version (1991) would not be accurate as to the analyses performed in 1988. This will not be changed.</p>	CLOSED 2/10/93
124.	<p><u>B-19/47.</u> There have been 3 revisions to SW-846 since 1982. Therefore, the most current edition of this document shall be used. When referring to SW-846, "as amended" will be used for citing this document.</p> <p><u>Ecology Requirement:</u> Refer to comment #121.</p> <p>RL/WHC RESPONSE: Citations of SW-846 will be updated unless it deals with a particular version that was actually used for a specific action.</p>	CLOSED 2/10/93

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125.	<p><u>B-20/17-26.</u> Dropping a pencil on a random number table is not a scientific way of determining which sample points are to be used during a sampling event.</p> <p><u>Ecology Requirement:</u> During future sampling events, determine a scientific method to designate a sampling point.</p> <p>RL/WHC RESPONSE: This description was included in the closure plan in response to Comment No. 57 in the NOD comments received for Revision 0 of the closure plan. Currently, a computer is used to generate random numbers.</p>	CLOSED 2/10/93
126.	<p><u>B-20/48.</u> It is stated that samples were collected in accordance with EPA Region X policy, but is not indicated which policy or document was used to determine this conclusion.</p> <p><u>Ecology Requirement:</u> State which policy and or document was used to determine that samples were collected in accordance with Region X policy.</p> <p>RL/WHC RESPONSE: Line 48 includes a reference to the particular EPA document (EPA 1986a). The title of this document as given in Section III, References is: <i>Method for Determining Whether Background Concentrations of Hazardous Constituents Have Been Achieved in Subsoil Beneath Hazardous Waste Management Units</i>. No change to the text is required.</p>	CLOSED 2/10/93

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127.	<p data-bbox="212 380 1727 444"><u>B-30/40.</u> If sample holding times can not be documented, and/or if holding times have been exceeded, these samples will be rejected.</p> <p data-bbox="212 477 1727 509"><u>Ecology Requirement:</u> If these are critical samples, a resampling effort must be established.</p> <p data-bbox="212 542 1727 639"><u>RL/WHC RESPONSE:</u> The fact that the holding times for these particular samples could not be documented is the reason the rain water run-off ditch was included in the resampling that took place in 1991.</p> <p data-bbox="212 672 1727 769"><u>Ecology Requirement 2:</u> Are all samples which exceeded holding times, those that are being resampled in the 1991 event? Please state if all samples that have exceeded holding times are those that were resampled.</p> <p data-bbox="212 802 1727 997"><u>RL/WHC RESPONSE 2:</u> Appendix E1, Section 4.4 states the criteria for inclusion of constituents that would be sampled for in the phase II sampling effort. Bullet 3 states "Constituents whose presence in the initial sample results is of questionable validity or are present for unknown reasons." Therefore, any analyses which exceeded holding times were resampled. This comment and the response were discussed with Ecology at the February 10, 1993, Unit Managers' Meeting and the response accepted.</p>	CLOSED 2/10/93
128.	<p data-bbox="212 1045 1604 1078"><u>B-30/48.</u> Duplicates and splits are different types of sample.</p> <p data-bbox="212 1110 1604 1143"><u>Ecology Requirement:</u> Delete the word "duplicate" which is placed after "Sample Split."</p> <p data-bbox="212 1175 1604 1203"><u>RL/WHC RESPONSE:</u> The word duplicate will be deleted from line 48 and line 49.</p>	CLOSED 2/10/93

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129.	<p>B-31/1. U.S. Testing holding times are not recognized by EPA or Ecology. Only USEPA holding times are to be used for chemical analyses. If UST holding times were used for samples and these holding times exceeded USEPA holding times, these samples will be rejected.</p> <p><u>Ecology Requirement:</u> If critical samples were lost due to UST holding times which have exceeded USEPA requirements, establish a resampling schedule.</p> <p>RL/WHC RESPONSE: This information was provided as a result of NOD Comment No. 64 on Revision 0 of the closure plan. The purpose was to provide required (EPA) verses actual (U.S. Testing) holding times and to highlight recognized inadequacies in the initial data. The results of the initial analyses and the data inadequacies were used in the development of the phase II sampling plan. The holding times for samples analyzed by U.S. Testing were actual holding times. U.S. Testing holding times were not approved or standard holding times used in place of those specified by the EPA. The heading in Table B-5 will be changed to "actual holding time."</p>	CLOSED 2/10/93
130.	<p>B-32/6. Were inorganic water samples taken, and if so, what type of preservative was used in these samples?</p> <p><u>Ecology Requirement:</u> Please indicate which type of preservative was used in water samples.</p> <p>RL/WHC RESPONSE: No water samples were taken in the initial sampling. Water sampling was planned to be conducted in the phase II sampling (Appendix E-1); however, the pond was dry at the time sampling occurred. The former Ecology Unit Manager indicated this was not a problem, and simply documented the fact that the pond was dry.</p>	CLOSED 2/10/93
131.	<p>B-32/41. This section addresses the decontamination of sampling equipment, but no mention was made as to how equipment will be decontaminated after samples are taken.</p> <p><u>Ecology Requirement:</u> Please indicate what decontamination procedures will be implemented to clean equipment after sampling takes place.</p> <p>RL/WHC RESPONSE: As stated at the end of the paragraph, the procedures are outlined in Appendix C-3, specifically on page 5, lines 26-33 and page 6. The same procedure used prior to sampling is also used after sampling.</p>	CLOSED 2/10/93

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132.	<p><u>B-36/44.</u> This section indicates that all cyanide samples exceeded holding times, and states that no levels were found. If a sample goes beyond holding times, there is a good chance that levels will not be found. All cyanide samples which have exceeded holding times are rejected.</p> <p><u>Ecology Requirement:</u> Since holding times were exceeded for cyanide samples, a resampling schedule needs to be established for cyanide analysis.</p> <p>RL/WHC RESPONSE: Resampling was conducted in June 1991, which included cyanide as an analyte of interest (see Table E1-3, Appendix E-1).</p> <p><u>Ecology Comment:</u> Table E1-3 in Appendix E1 does not indicate that cyanide is an analyte of interest.</p> <p>RL/WHC RESPONSE 2: Cyanide will be added to the table. Cyanide analyses were requested for samples BOOGP2 through BOOGP8, BOOGQ9, and BOOGR1. This comment and the response were discussed with Ecology at the February 10, 1993, Unit Managers' Meeting and the response accepted.</p>	<p>CLOSED 2/10/93</p>
133.	<p><u>B-36/50.</u> This section states that laboratory blanks were within established QC limits. Were these EPA or UST QC limits?</p> <p><u>Ecology Requirement:</u> Please specify if these QC limits are EPA or UST. If they are UST, explain how they compare with the EPA limits.</p> <p>RL/WHC RESPONSE: The last sentence of the opening paragraph of Section B-5d states: "Details concerning the laboratory quality control (QC) assessment are contained in Appendix C-4 and summarized in the following section." The opening paragraph of Appendix C-4 further states: "The following comments refer to laboratory performance in meeting <i>EPA</i> (emphasis added) quality control specifications outlined in IFB-WA-87K-025, -026, and -027 (EPA 1988)."</p>	<p>CLOSED 2/10/93</p>

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134.	<p data-bbox="210 370 706 402"><u>B-37/18.</u> Refer to comment 129.</p> <p data-bbox="210 435 1659 500"><u>Ecology Requirement:</u> If the holding times do not meet EPA criteria, these samples will be rejected and a resampling schedule must be established.</p> <p data-bbox="210 532 1755 630"><u>RL/WHC RESPONSE:</u> All holding times for the soil analyses were met, except for those listed in Table B-5 on page B-31. See response to Comment No. 129. Resampling was conducted in June 1991 (see Table E1-3, Appendix E-1).</p>	CLOSED 2/10/93
135.	<p data-bbox="210 678 1723 776"><u>B-99/6.</u> High levels of chromium were found in unfiltered samples. It was expressed that this finding was due to the natural environment. How high above background levels were the concentrations in these samples?</p> <p data-bbox="210 808 1670 873"><u>Ecology Requirement:</u> Provide information on elevated chromium levels found at 2101-M Pond. Please indicate where information was obtained on background levels at the site.</p> <p data-bbox="210 906 1755 1101"><u>RL/WHC RESPONSE:</u> As referenced in each of the Sections of B-6d(2), the actual concentrations of chromium can be found in Appendix D-2. The data are organized by sampling date. For a quick, general idea, see the results of the first semiannual sampling provided and compared to the baseline tolerance interval in Table B-23 on page B-100. The baseline was established using six additional wells located across the Hanford Site and is described in Section B-6b(6.3), lines 21 through 45, on page B-88.</p>	CLOSED 2/10/93
136.	<p data-bbox="210 1149 1787 1247"><u>B-99/38.</u> What "tolerance intervals" were used? Was this the actual concentration levels as compared to background, or was this the detection limit? If this is the detection limit, were EPA or UST detection limits used?</p> <p data-bbox="210 1279 1787 1344"><u>Ecology Requirement:</u> Explain tolerance levels, and if these are detection limits, specify whether EPA or UST limits are being used.</p> <p data-bbox="210 1377 1755 1498"><u>RL/WHC RESPONSE:</u> Table B-21 on page B-90 lists the upper tolerance limits established for the baseline. An explanation of tolerance intervals and how they are established can be found on page B-87. The reasoning for using this statistical method is explained in Section B-6b(6.1) on page B-86.</p>	CLOSED 2/10/93

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No.	Comment/Response	Concurrence
137.	<u>B-104/52.</u> Refer to Comment Number 121. RL/WHC RESPONSE: Citations of SW-846 will be updated unless it deals with a particular version that was actually used for a specific action.	CLOSED 2/10/93
138.	<u>B-105/23.</u> <u>Ecology Requirement:</u> Provide a list of the UST detection limits and compare these with the EPA detection limits. Also provide the Contract Required Detection Limits (CRDLs) and the Instrument Detection Limits (IDLs) that were used. RL/WHC RESPONSE: The contractually required detection limits used by U.S. Testing are provided with the groundwater data in Appendix D-2. Section B-6g provides summary results of a quality control review done against SW-846 and other standard methods. The table on page B-106 highlights the only U.S. Testing detection limits that were above the EPA standards. Additionally, the quality control tables at the end of Appendix C-4 provide method detection limits, limits of detection, and limits of quantitation.	CLOSED 2/10/93
139.	<u>B-105/50.</u> It is stated that EPA methods were used for analysis, but U.S. Testing detection limits and holding times were implemented at this time. Most UST holding times exceeded USEPA standards. Since most standards exceeded USEPA holding times, all samples which were out of conformance will be rejected. <u>Ecology Requirement:</u> Refer to Comment Number 129. RL/WHC RESPONSE: The groundwater holding times did not exceed the holding times required by the EPA, and all detection limits except those listed on page B-106 met the detection limits as stipulated by the EPA methods (Section B-6g). See response to Comment No. 129 for additional information.	CLOSED 2/10/93

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140.	<p><u>B-106/8.</u> When it is stated that pesticides, herbicides, and phenols were collected as required by 40 CFR 265, what exactly does this mean? The regulations state what type of samples are necessary, that a sampling plan must be submitted to EPA and this plan must be implemented. This section does not state how sampling is to be performed.</p> <p><u>Ecology Requirement:</u> Give details on what is meant by samples being collected as required by 40 CFR 265.</p> <p><u>RL/WHC RESPONSE:</u> This means simply that pesticides, herbicides, and phenols were collected <u>because</u> they are required by 40 CFR 265. The text will be modified to make this clearer.</p>	CLOSED 2/10/93
141.	<p><u>B-106/21.</u> The statement is made that holding times were met. Which holding times, EPA or U.S. testing? Most UST holding times have exceeded EPA requirements. Samples which have exceeded EPA requirements are rejected.</p> <p><u>Ecology Requirement:</u> If critical samples are rejected because of holding time exceedences, resampling may need to be performed.</p> <p><u>RL/WHC RESPONSE:</u> As mentioned in the opening paragraph of Section B-6g(1 and 2), when it says that all holding times were met, it means EPA requirements. U.S. Testing did not have different holding times. Several soil sample holding times which were developed by EPA were missed; however, no holding times for groundwater samples were missed.</p>	CLOSED 2/10/93

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142.	<p data-bbox="208 378 1740 475"><u>B-106/27.</u> All detection limits for ground and drinking water must be in compliance with Washington State drinking water standards or MTCA dependent upon the site. These standards are much more stringent than EPA requirements.</p> <p data-bbox="208 508 1740 573"><u>Ecology Requirement:</u> All Washington State requirements must be followed regarding ground and drinking water detection limits.</p> <p data-bbox="208 605 1740 800"><u>RL/WHC RESPONSE:</u> The RCRA groundwater monitoring program at the Hanford Site has been in existence since 1987, and has been negotiated with and under the control of an Ecology Unit Manager. WAC 173-303-110 lists SW-846 methods as appropriate and approved methods for analyses, which includes the SW-846 detection limits. WAC 173-303-645 does not list or reference any other methods or detection limits. Therefore, the detection limits established by the EPA are appropriate.</p> <p data-bbox="208 833 1740 898"><u>Ecology Comment:</u> Since this site is being considered for clean closure all ground water must be in compliance with MTCA standards.</p> <p data-bbox="208 930 1740 1079"><u>RL/WHC RESPONSE 2:</u> The original comment had to do with the detection limits used in the groundwater program. It was answered, and shown that the EPA detection limits provided in SW-846 and other approved standard methods are appropriate. The groundwater data to date indicate that the 2101-M Pond has not adversely affected the groundwater. Therefore, the groundwater is not an issue for clean closure of the 2101-M Pond.</p>	CLOSED 3/03/93
143.	<p data-bbox="208 1141 1740 1174"><u>B-107/4.</u> Refer to Comment Number 138.</p> <p data-bbox="208 1206 1740 1260"><u>RL/WHC RESPONSE:</u> The text will be changed to "...all below the EPA method detection limits." Also see response to Comment No. 138 for additional information.</p>	CLOSED 2/10/93

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144.	<p><u>B-107/23.</u> The information to determine surrogate recoveries is missing.</p> <p><u>Ecology Requirement:</u> Provide information on surrogates and the percentages found. Attachment 1, table 6 illustrates EPA requirements.</p> <p>RL/WHC RESPONSE: The groundwater surrogate spike recoveries are listed in Appendix C-4 starting on page 25. A reference to this table will be added to the text.</p>	CLOSED 2/10/93
145.	<p><u>B-107/29.</u> Why weren't EPA matrix spike recoveries used? What are the UST matrix spike recovery limits?</p> <p><u>Ecology Requirement:</u> Discuss in detail the spike recoveries used and the recovery limits. Explain why EPA matrix spike recoveries were not used.</p> <p>RL/WHC RESPONSE: The text will be changed to EPA matrix spike recoveries. The groundwater matrix spike recoveries are listed in Appendix C-4 immediately behind the surrogate spike information. A reference to this table will be added to the text.</p>	CLOSED 2/10/93
146.	<p><u>B-107/37.</u> According to a previous statement, not all EPA methods were used for analyses. Spike recoveries cannot as yet be determined to have been in compliance with EPA QC limits. Samples which exceeded EPA holding times are rejected. Samples which exceeded percent recoveries by 10% or more or have not met percent recoveries by 10% or more are also rejected. Where can the information be found which indicates that control samples were used for accuracy checks?</p> <p><u>Ecology Requirement:</u> Provide all missing QA information as listed in above statements.</p> <p>RL/WHC RESPONSE: Other standard methods (i.e., ASTM, APHA) were used when EPA methods were not available. The word "approved" will be inserted between "EPA" and "methods" on line 41. All available QA information is reported in Appendix C-4. A reference to Appendix C-4 will be added to the text of Section B-6g on page B-104.</p>	CLOSED 2/10/93

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147.	<p data-bbox="208 381 1713 479"><u>B-108/11.</u> It is stated that data received from the 2101-M Pond System groundwater samples indicate that this site should be clean closed. What types of contamination are present from radioactive constituents? Radioactive contamination must be addressed for clean closures.</p> <p data-bbox="208 511 1596 576"><u>Ecology Requirement:</u> Provide information on radiochemistry to determine the amount of contamination from radioactive constituents.</p> <p data-bbox="208 609 1787 706">RL/WHC RESPONSE: There is no evidence of radioactive contamination at the 2101-M Pond as shown in Appendix C-1 and D-2. If there were radioactive contamination in the groundwater, it would not be a result of activities at the 2101-M Pond and would be remediated under CERCLA authority.</p> <p data-bbox="208 738 1776 868"><u>Ecology Comment:</u> Table D2 does list some radioactive constituents above detection limits. There is no indication of how high above detection limits. Please provide Ecology with rad counts for those radioactive constituents found at the Pond, so that we may be able to determine if the pond can be clean closed.</p> <p data-bbox="208 901 1776 1031">RL/WHC RESPONSE 2: There are no radioactive constituents found at the 2101-M Pond. If there is radioactive contamination in the groundwater it is not from the 2101-M Pond, and therefore, would be under CERCLA jurisdiction. This comment and the response were discussed with Ecology at the February 10, 1993, Unit Managers' Meeting and the response accepted.</p>	CLOSED 2/10/93
148.	<p data-bbox="208 1079 1776 1144"><u>Section II-1.</u> In the summary, the second paragraph is contradicted by the rest of the plan as to lift thickness and permeability.</p> <p data-bbox="208 1177 1755 1242"><u>Ecology Requirement:</u> Permeability shall be verified on test pads through use of a sealed double ring infiltrometer.</p> <p data-bbox="208 1274 1787 1461">RL/WHC RESPONSE: The summary does not discuss permeability or specify the lift thickness. The hydraulic conductivity value on line 36 will be changed to 3×10^{-7} cm/s. The following text will be added at the end of the second paragraph: "If there is need to build a cover, then standard field verification test methods (e.g., sealed double ring infiltrometer) will be specified as part of the quality control for the final cover design. A final cover design will only be done in the event that the landfill contingency is necessary.</p>	CLOSED 2/10/93

9 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

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149.	<p><u>Section II-2.</u> Preliminary Cover Design-Energy has proposed McGee Ranch soil before, but has used bentonite modified local soil. Which will be used?</p> <p><u>Ecology Requirement:</u> Since bentonite has been used in the past, study the bentonite alternative along with McGee Ranch, and provide Ecology with information as to what will be used as a cover.</p> <p>RL/WHC RESPONSE: The intent is as stated, that McGee Ranch soil only will be used. The cover design that proposed bentonite modified soil was also preliminary in nature and probably will not be implemented.</p> <p>Bentonite has not been used in the past; no RCRA covers have been constructed on the Hanford Site to date. As stated in the closure plan, this is a preliminary design and was included only as a contingent closure plan as required by WAC 173-303-610(3)(a). No additional design work or engineering studies will be conducted unless the contingent closure must be implemented and a definitive design is required.</p>	CLOSED 2/10/93
150.	<p><u>Section II-2a.</u> Cover materials description: Once again the description of soil placement is contradicted by the remainder of the report. In addition, adequate compaction cannot be achieved with 12 inch lifts by any means now available to the industry.</p> <p><u>Ecology Requirement:</u> Provide detail on how adequate compaction will be achieved.</p> <p>RL/WHC RESPONSE: Except for one change, noted below, this section does not contradict the rest of the report and does not require modification. The lift thickness stated on line 37 will be changed from 12 inches to 6 inches.</p>	CLOSED 2/10/93

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151.	<p>Sheepsfoot rollers are obsolete. Does the writer mean "padfoot roller"?</p> <p><u>Ecology Requirement:</u> An adequate roller will be required. Give details on what type of roller will be used.</p> <p>RL/WHC RESPONSE: The list on lines 40 and 41 are only intended to give the reader an <i>idea</i> of the options available. However, sheepsfoot rollers are still in use, and pneumatic compactors are rubber tired. The specifics would be determined in the definitive design if the contingent plan was to be implemented.</p>	CLOSED 2/10/93
152.	<p>Rubber tired construction equipment may give adequate compaction, and then again it may not. 21 yard scrapers would do it, a front end loader will not.</p> <p><u>Ecology Requirement:</u> Provide detail on how adequate compaction will be achieved.</p> <p>RL/WHC RESPONSE: The list on lines 40 and 41 are only intended to give the reader an <i>idea</i> of the options available. However, sheepsfoot rollers are still in use, and pneumatic compactors are rubber tired. The specifics would be determined in the definitive design if the contingent plan was to be implemented.</p>	CLOSED 2/10/93
153.	<p><u>Comment/Requirement:</u> If nuclear density gauges are used, they must be calibrated by comparison with a sand cone daily.</p> <p>RL/WHC RESPONSE: If nuclear density gauges are used, they will be calibrated per operational procedures. Currently on the Hanford Site, nuclear density gauges are operated only by certified engineers and are calibrated using national standards.</p>	CLOSED 2/10/93

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154.	<p><u>Table II-3.</u> The term "proctor" is imprecise.</p> <p><u>Ecology Requirement:</u> Please quote American Society for Testing and Materials (ASTM), American Association of State Highway and Transportation Officers (AASHTO), or Washington State Department of Transportation (WDOT).</p> <p>RL/WHC RESPONSE: Specific method names will be substituted in the table (ASTM D698-78).</p>	CLOSED 2/10/93
155.	<p><u>Section II-3a, Fifth paragraph last sentence.</u> The removal of deep rooted plants is imperative, not optional.</p> <p><u>Ecology Requirement:</u> Deep rooted plants must be removed.</p> <p>RL/WHC RESPONSE: This sentence does not indicate this is optional. If deep-rooted plants start on the cover, they will be removed. The intent was, that deep-rooted plants may not get a start on the cover and thus, may not require removal. The text will be changed to a statement similar to the second sentence above.</p>	CLOSED 2/10/93
156.	<p><u>Appendix C.</u> Ecology is rejecting all data submitted which was included in Revision 1 of the 2101-M Closure plan due to samples exceeding holding times, no documentation of extraction times and recoveries being outside of QC limits.</p> <p>RL/WHC RESPONSE: A certain amount of data is always going to fail some aspect of the quality control criteria. This fact does not invalidate the entire data set. Much of the data presented here has not failed any of the quality control criteria, and those data points that do could still represent useful information. All information requested in the preceding comments was supplied within the closure plan. Ecology previously proposed to use the Phase II soil data to evaluate the acceptability and usefulness of the soil data presented here.</p>	CLOSED 2/10/93

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157.	<p data-bbox="206 386 1757 447"><u>Appendices C-4 through D-2.</u> Is the information contained in these appendices the same data which was submitted earlier in the UST and Martin Marietta data packages?</p> <p data-bbox="206 484 1708 545"><u>Ecology Requirement:</u> Please indicate if this is the same data which was submitted in the data packages received by Ecology.</p> <p data-bbox="206 581 1757 804"><u>RL/WHC RESPONSE:</u> The data presented in the closure plan is all U.S. Testing data. Appendix C-4 contains quality control information for both soil and groundwater analyses done by U.S. Testing. Appendix D-2 contains groundwater analytical information. There has been no data package submitted from Martin Marietta for the 2101-M Pond. Data packages submitted to Ecology in 1992 were the results of the 1991 soil sampling. Analyses were performed by Data Chem and S-Cubed laboratories. The latter data was not available at the time issuance of Revision 1 occurred, and was not included in the closure plan.</p>	CLOSED 2/10/93

The comments below are those which have been submitted in the latest NOD response table, and still require resolution.

Below are partial comments taken from the Notice of Deficiency Response Table on Revision 0 of the closure plan. This was the last Response Table for Revision 0, which was prepared after closure of the Revision 0 comments with Ecology.

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16.	<p data-bbox="253 388 1779 513"><u>USDOE/WHC Proposal:</u> Groundwater data was interpreted to the extent available at the time the closure plan was written. Additional data was presented in the plan for completeness. All the data and statistical analyses will be submitted in the 2101-M Pond RCRA Site Characterization Report.</p> <p data-bbox="253 546 1827 707"><u>Ecology Response:</u> This closure plan should provide enough information specific to the 2101-M Pond on which to base decisions. This means that both the available data and its interpretation should be presented within the closure plan; submittal in another report is not sufficient. It is also appropriate for similar types of information to be presented in one section, i.e., all of the data may be presented in tabular form in an appendix.</p> <p data-bbox="253 740 1613 773"><u>USDOE/WHC Proposal:</u> All available groundwater data will be presented in an appendix.</p> <p data-bbox="253 806 1793 966"><u>Ecology Response:</u> There must be enough information available in order to validate the data. Information is missing as in the other data reports submitted by USDOE, the missing data must be provided. We cannot make a determination on the groundwater analysis until all missing information is made available. Refer to the letter submitted to DOE on May 29, 1992 regarding this issue.</p> <p data-bbox="253 999 1827 1192"><u>RL/WHC RESPONSE:</u> The original comment, "Only two quarters of groundwater data are examined, yet four quarters are currently available," dealt with the number of sampling events included in the closure plan, not validation of the data. RL/WHC feels the original comment has been satisfied as evidenced by Ecology's concurrence at the August 14, 1990, Unit Managers' Meeting. The issue of the amount of data needed to perform validation is a new and separate issue, which is addressed in the response to Comment No. 116.</p>	CLOSED 2/10/93

No.	Comment/Response	Concurrence
24.	<p><u>USDOE/WHC Proposal:</u> Modify the closure plan to demonstrate compliance with WAC 173-303-645 and give additional clarifications about the impact the 2101-M Pond has had on groundwater.</p> <p><u>Ecology Response:</u> This will be conditionally accepted provided that the following contradictory statements are reconciled and the results approved by Ecology. First it is stated, "while it is difficult to absolutely prove ... well E18-1 is upgradient and representative of background ..." Then it is stated, "well E18-1 provides background water quality per the definition of Appendix A in the ... [FFACO]." Ecology will determine if this revision is acceptable depending on the results of number 25.</p> <p><u>USDOE/WHC Proposal:</u> The text will be modified to reflect the information presented at the July 11, 1990, Unit Manager Meeting.</p> <p><u>Ecology Response:</u> There are some questions which remain regarding the analytical results taken from the groundwater samples. There is a statement made that constituents were found to be below standards or detection limits. What standards or detection limits are being referred to in this section? The statement that the issue of background is moot because groundwater beneath 2101-M Pond has not been degraded by operations in the 2101-M facility needs to be established in the closure plan. State in the plan that groundwater monitoring is in compliance with WAC 173-303-645.</p> <p>RL/WHC RESPONSE: The questions regarding the sampling results are separate issues and are addressed in the responses to Comment Nos. 138, 140, 141, 144, 147, 148, and 149.</p> <p>RL/WHC feels it has established in the closure plan that the groundwater has not been impacted by discharges to the 2101-M Pond. Please see Section B-6b(3.3), specifically page B-80 and Figure B-18 on page B-81, also Section B-6b(6.3), specifically Tables B-21 and B-23.</p> <p>The first paragraph of Section B-6, Section B-6b(6.1), and Section B-6b(6.3) discuss compliance with WAC 173-303-645. However, a reliance on 40 CFR 265 must be maintained to establish measurement parameters, because WAC 173-303-645 relies on a permit and contains almost no measurement parameters.</p>	<p>CLOSED 2/10/93</p>

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58.	<p data-bbox="257 386 1761 447"><u>USDOE/WHC Proposal:</u> "The integrity of background sample data collected within 1000 ft. of the 2101-M Pond site will be assessed and documented in the 2101-M Pond Closure Plan."</p> <p data-bbox="257 485 1808 579"><u>Ecology Response:</u> The issue of past practice effects and RCRA/CERCLA overlap at sites chosen for background sampling is being decided at the Project Manager's level. The acceptability of the background sampling sites will be decided after this issue is resolved.</p> <p data-bbox="257 617 1789 678"><u>Ecology Response 2:</u> The latest background report is being reviewed. Ecology will have a better idea after this review, if the sites chosen for background are acceptable.</p> <p data-bbox="257 716 1808 933"><u>RL/WHC RESPONSE:</u> The original comment stemmed from the fact that Ecology did not believe the local background sites to be unimpacted by past practices. A series of historical photos were included in the closure plan to verify that the background site was not affected by past practices. RL/WHC feels the original comment has been satisfied as evidenced by Ecology's concurrence at the August 14, 1990, Unit Managers' Meeting. The background samples for 2101-M Pond were taken prior to, and are separate from, the Hanford Site soil and groundwater background study currently underway.</p>	CLOSED 2/10/93

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Author	Addressee	Correspondence No.
J. D. Bauer, RL R. E. Lerch, WHC (W. G. Cox, WHC)	P. T. Day, EPA R. F. Stanley, Ecology	Incoming 9303470 Xref:9352195D

Subject: SUBMITTAL OF 2101-M POND CLOSURE PLAN, REVISION 1 - DRAFT NOTICE OF DEFICIENCY RESPONSE TABLE (D-2-1)

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